

Eagle Pass, Tex., 28th; Cape Lookout, N. C., 29th, instruments had to be cut out; Chattanooga, Tenn., 11th, electricity entered telegraph office, passed two arresters with loud explosion.

## OPTICAL PHENOMENA.

*Solar Halos*.—1st, N. Y., N. H., Ga., Or.; 2nd, Conn., Dak., Ia., Mass., Mich., N. H., N. Y., Ga.; 3rd, Mass., Wis.; 4th, Ia., Mich., Mo.; 5th, N. J., Mich., Ga., Or.; 7th, Ohio, Mich., Ga., Or.; 8th, Ohio, Ga.; 9th, Ohio; 10th, Ga.; 11th, Miss., Ohio, Ill., N. Y.; 12th, La., Miss., Mich., Ohio, Ind.; 13th, Conn., Dak., Ia., Ohio, W. Va., Ind., Mo., N. H., N. Y., N. C., Or.; 14th, Neb., Dak., Minn., N. H., Me.; 15th, Ohio, Ill., Pa., Vt.; 16th, Cal., Conn., Utah., Minn., Ohio, Md., N. J., Va., Or.; 17th, Cal.; 18th, Conn., Mass.; 19th, Mich., Neb., Or.; 20th, Conn., N. Y., Kan., Mich., N. J., Cal.; 21st, Utah, Wis.; 22nd, Utah, Ill., Me., Mass., N. H., N. Y., Vt.; 23rd, Kan., Dak., Ia., Ind., Mich.; 24th, Conn., Dak., Fla., Mo., Ill., Ia., Mass.; N. H., N. J., N. Y., Vt., Ga.; 25th, Dak., Ia., Mo., Ohio, Ill., Ind., Ga.; 26th, Utah, N. J., N. Y., N. C., Conn.; 27th, Dak., Ill., Ohio, S. C.; 28th, Ohio, Ind., Mich.; 29th, Ia., Kan., Or.; 30th, Col., Md., N. J., N. C., Cal.; 31st, Utah, Ohio., Ind., Mich., N. J.

*Lunar Halos*.—1st, Utah, Nev., Wis., Minn., Mich., N. J. 2nd, N. M., Neb., Mich., N. Y., Ia., Mass., N. H., Vt. 3rd, Utah, Idaho, Neb., Ind. Ty., Tex., Dak., Mo., Wis., Mich., N. Y., Ia., Kan., Mass., Mo., Vt. 4th, Ala., Tex., La., Ia., Mo., Minn., N. Y., Ohio, Tenn., Ill., Ind., Kan., Me., Mass., N. J., Va., Vt., Ga. 5th, Cal., Neb., N. Y., Ohio, Ind., Kan., Mo., N. J., Pa., Ga., N. C., Va., Conn. 6th, Col., Dak., Wis., Mich., Ohio, Pa., W. Va., Ia., Me., Mo., Vt., Or. 7th, Col., Dak., Tex., N. Y. 8th, Col., N. Y., W. Va., Mich., Ga. 9th, Wis., N. J. 10th, Ga., Md. 11th, Mich., Ind. 12th, Tenn., Me. 13th, Vt. 14th, Tenn., N. Y. 16th, Idaho, Wis. 17th, Neb. 20th, Wis. 23rd, Utah. 25th, Miss. 26th, Tex., Ia., Mass., Conn. 27th, Ia., Ind., Ohio, Ga. 28th, Dak., W. Va., Mo., N. J., N. Y., N. C., Va., N. H. 29th, Idaho, Dak., Ohio, N. C., Or. 30th, Conn., N. M., Col., Kan., Mass., Mo., N. J., N. Y., Ga., Va., N. H. 31st, Kan., Tex., Ohio, Ind., Mo., N. J.

*Mirage*.—Olivet, Dak., 1st, 4th, 26th, 30th; Pembina, Dak., 24th; Breckenridge, Minn., 1st, 2nd; Lynn, Mass, 6th.

## MISCELLANEOUS PHENOMENA.

**BOTANICAL.**—*Alabama*—Green Springs, in bloom, 10th, dogwood, 15th, sassafras, 17th, red buckeye and yellow jessamine, 18th, fish poison, 28th, calycanthus, 29th, sweet gum. *Arkansas*—Mt. Ida, in bloom, 6th, peach and plum, 15th, apple and pear, 22nd, quince, 20th, dogwood and red oak. *Colorado*—Georgetown, 15th, few miles below station trees in bloom and in leaf, grass three inches high. *Dakota*—Olivet, 6th, sowing wheat; 8th to 12th, plowing. *Florida*—Houston, 10th, corn planting begun; 31st, cotton planting commenced, Milton, all peach trees in full bloom; 6th, oak trees in blossom; 17th, small figs on trees, stalks of Irish potatoes one foot high; 31st, roses and other hardy flowers in full bloom. *Georgia*—Forsyth, 31st, vegetation ten to fifteen days earlier than for many years, corn planting begun. Augusta, in bloom, 5th, wistaria, 6th, plum, 18th, jonquils; 8th, tree buds swelling; 11th, Irish potatoes sprouting, trees leafing; 22nd, asparagus, beets and English peas in market. *Illinois*—Riley, 10th, some farmers sowing wheat. Anna, in bloom, 26th, peach. *Indiana*—Vevay, Prof. Chas. G. Boernr reports as the result of a series of fourteen years observations (in the same exposure) upon the first flowering of the "Crocus," that "the earliest opening of the flower occurred on February 18th, 1877, and the latest on March 19th, 1870, being a difference of four weeks in the extremes." New Corydon, 31st, wheat, winter barley, rye and clover are in a very good condition, orchards and vineyards have not suffered by cold, pear trees will be covered with blossoms. St. Meinrad, in bloom, 9th, crocus and tulip. *Indian Territory*—Ft. Gibson, in bloom, 9th, wild plum, 10th, peach, plum, cherry and apple, 11th, wild daisies and red bud, 13th, jonquils, tulips and hyacinths, 27th, forest trees leafing. *Iowa*—Vail, 10th, spring work commenced, sowing grain and plowing. Keokuk, 8th, trees budding. Dubuque, in bloom, 10th, maple, six days earlier than for thirty years. *Kansas*—Holton, in bloom, 9th, elm; 31st, most fruit thought to be killed, forest trees leafing. *Maryland*—Woodstock, 10th, grass in sheltered places beginning to grow, swamp willow budding; 22nd, white maple budding. *Massachusetts*—New Bedford, 11th, in bloom, snow-drop and crocus. Fall River, in bloom, 7th, snow-drop. Waltham, 31st, buds of poplar and willow swelling. *Michigan*—Northport, in bloom, 20th, polyanthus. *Missouri*—Oregon, sprouting, 6th, tulips, 9th, dandelions, 22nd, hops; in bloom, 7th elm, 8th, red maple, 29th, crocus. *Mississippi*—Brookhaven, 25th, second crop of strawberries ripening; 31st, finished planting corn and sugar cane, acreage of latter very large for this section, oat crop looks well, fruit crop very promising. *Nebraska*—Howard, 31st, peach trees reported killed throughout the county. *Nevada*—Winnemucca, in bloom, 21st, apricot and other fruit trees twelve miles south of station; Boise City, in bloom, 2nd, yellow jessamine, 28th, apricot, 31st, peach; 1st, blackberries frozen. *New Jersey*—Atco, in bloom, 27th, moss vine. *New York*—Flushing, in bloom, 30th, yellow tulip. *New Mexico*—Santa Fé, in bloom, 27th, apricot, plum and peach, much earlier than usual. *North Carolina*—Weldon, plums, 17th, peach, 23rd, white mulberry; in bloom, 23rd, peach and plum; leafing, 23rd, maple and weeping willow. Murphy, in bloom, 31st, peach, pear and plum. Fayetteville, 31st, wheat and oats in fine condition, fruit uninjured. *Ohio*—Ruggles, 31st, wheat very poor, badly winter killed: Jacksonburg, 8th, winter wheat and barley very promising. *Oregon*—Portland, in bloom, 22nd, peach, 30th, plum. *Tennessee*—McMinnville, in bloom, 1st, iris, 3rd, maple, 8th, wild flowers, 9th, spirea and peach, 21st, plum. Knoxville, in bloom, 11th, peach. Chattanooga, in bloom, 1st, japonicas and hyacinths, 10th, peach, 12th, pear, 26th, apple and cherry. *Texas*—Melissa, in bloom, 5th, wild flowers, some corn planted.